

Fig. 1

FIG. 2

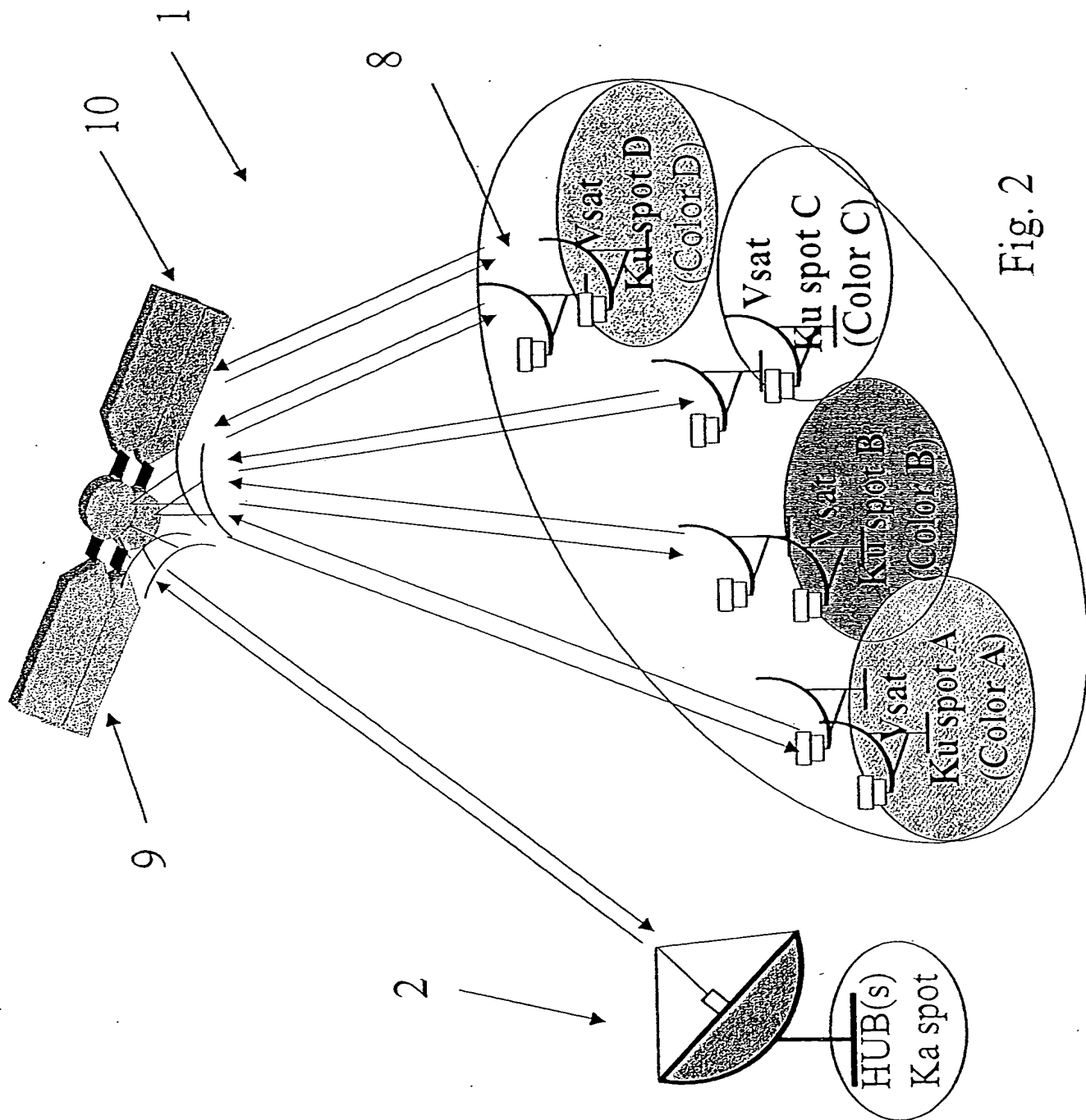


Fig. 2

Channel-Arrangement Example Table

Single set out of six. Channel numbers are in the frequency order. IB or OB channels

• Fig. 3A Full configuration - Dual-satellite, Dual-pole

A spot (color A)	a- channels	b- channels	B spot (color B)	a- channels	b- channels	C spot (color C)	a- channels	b- channels	D spot (color D)	a- channels	b- channels
X-pol	1	5	X-pol	2	6	X-pol	3	7	X-pol	4	8
Y-pol	3	7	Y-pol	4	8	Y-pol	1	5	Y-pol	2	6

• Fig. 3B Single satellite - Single-pole

A spot (color A)	a- channels	b- channels	B spot (color B)	a- channels	b- channels	C spot (color C)	a- channels	b- channels	D spot (color D)	a- channels	b- channels
X-pol	1	5	X-pol	2	6	X-pol	3	7	X-pol	4	8
Y-pol			Y-pol			Y-pol			Y-pol		

• Fig. 3C Single satellite - Dual-pole, "Half range" only is occupied

A spot (color A)	a- channels	b- channels	B spot (color B)	a- channels	b- channels	C spot (color C)	a- channels	b- channels	D spot (color D)	a- channels	b- channels
X-pol		5	X-pol		6	X-pol		7	X-pol		8
Y-pol		7	Y-pol		8	Y-pol		5	Y-pol		6

FIG. 4

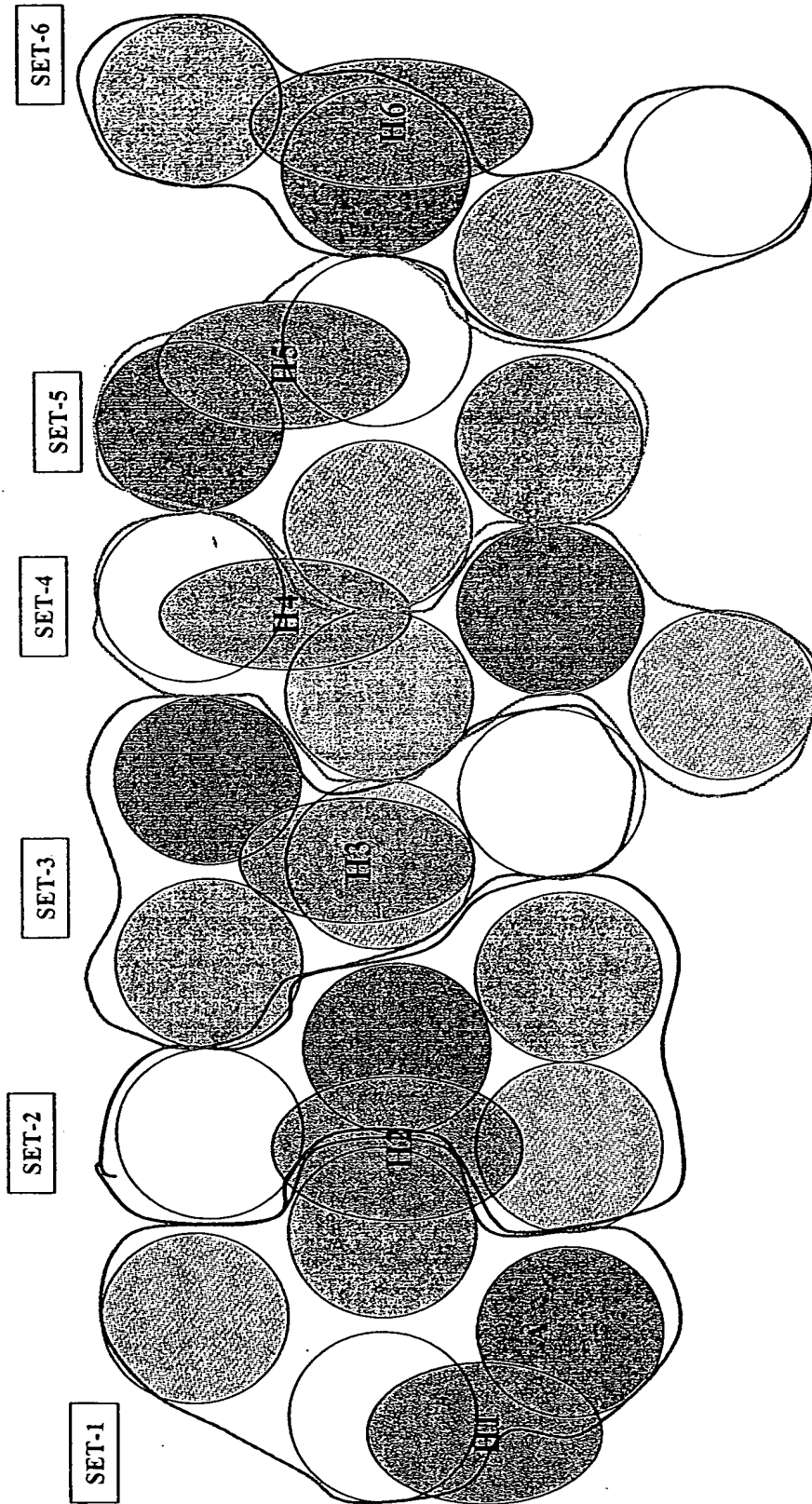


Fig. 4

FIG. 5

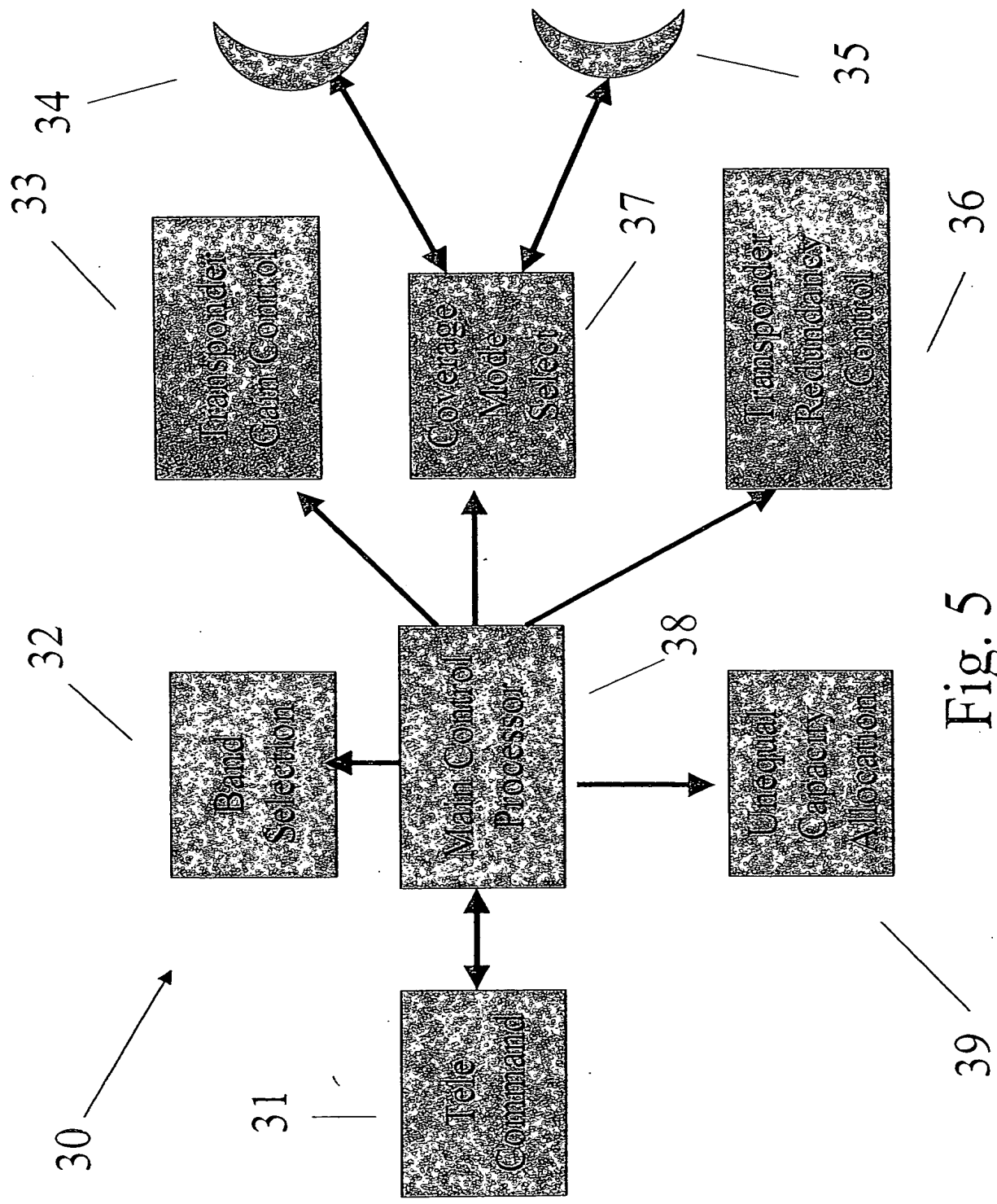


Fig. 5

FIG. 6

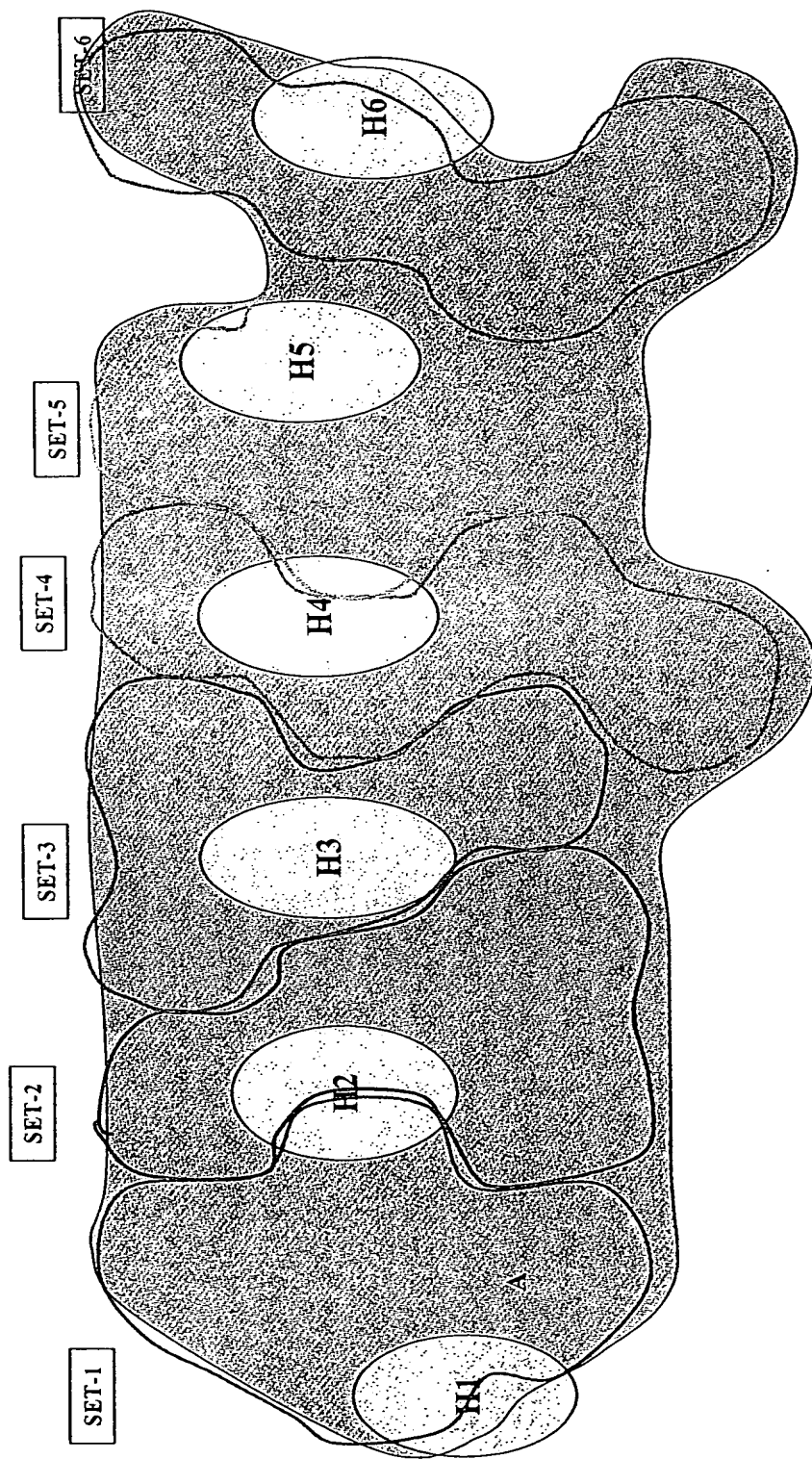


Fig. 6

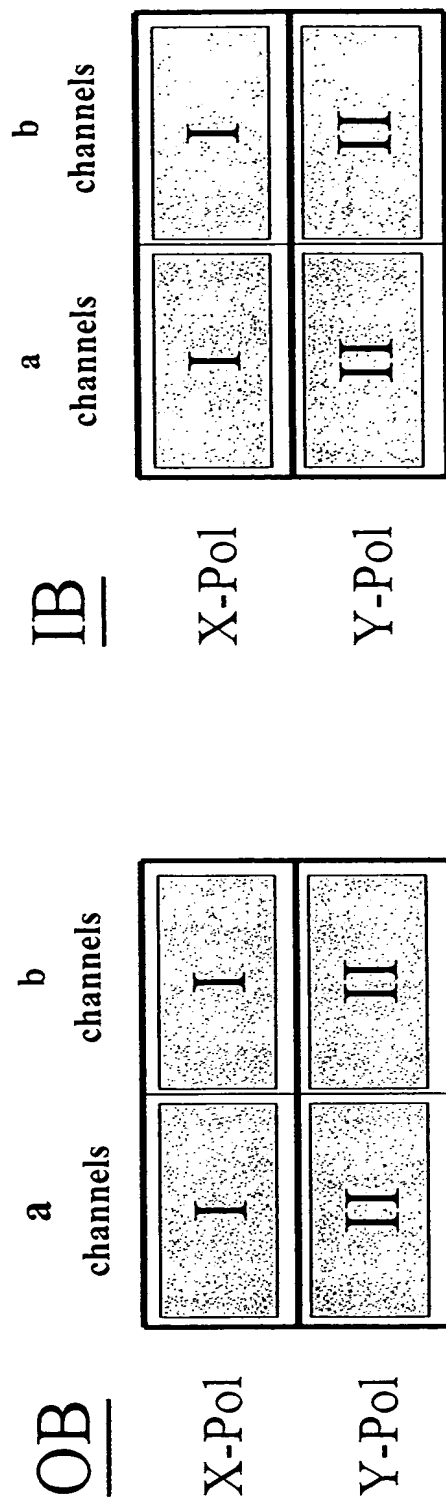


Fig. 7

FIG. 8

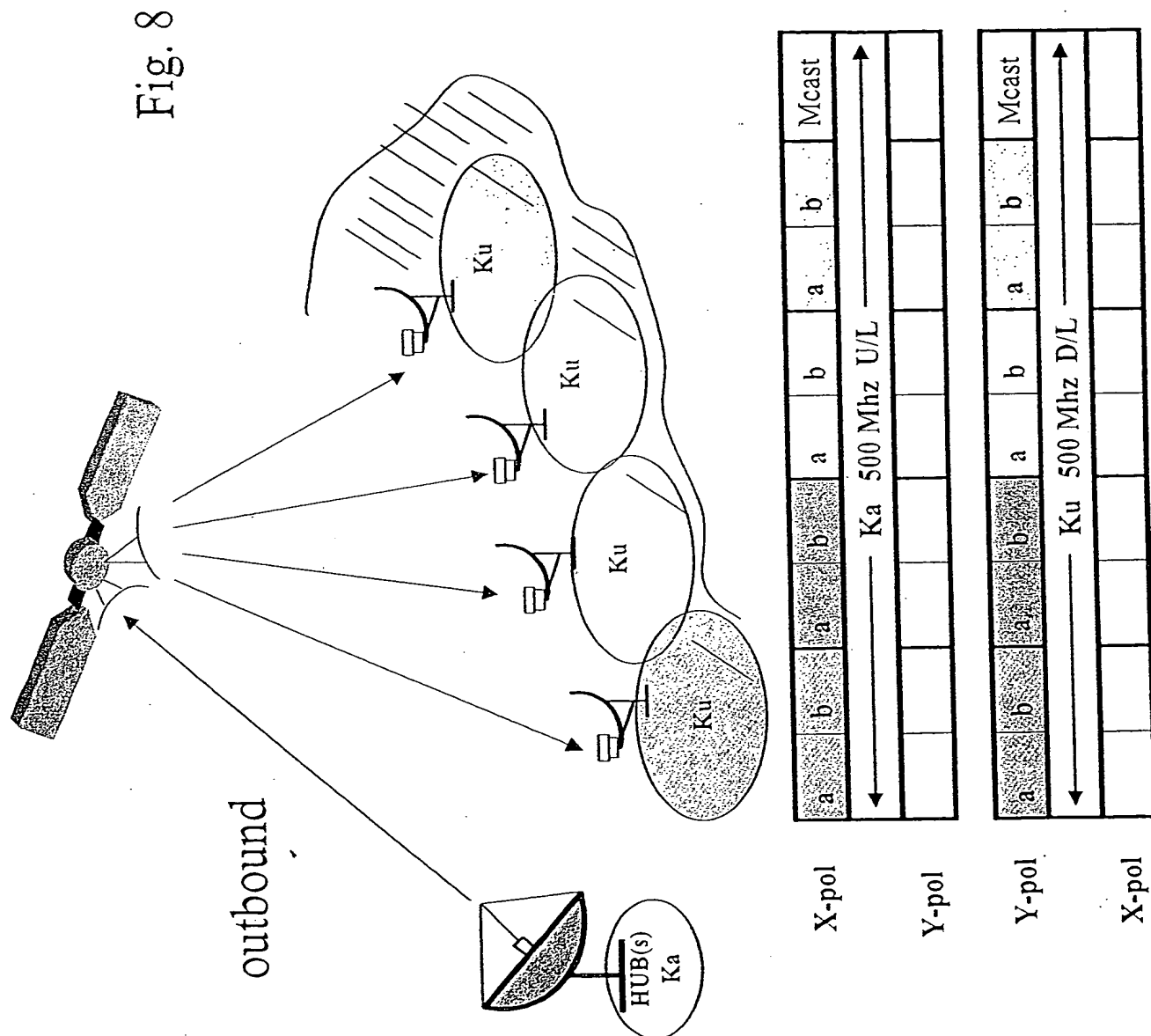


FIG. 9

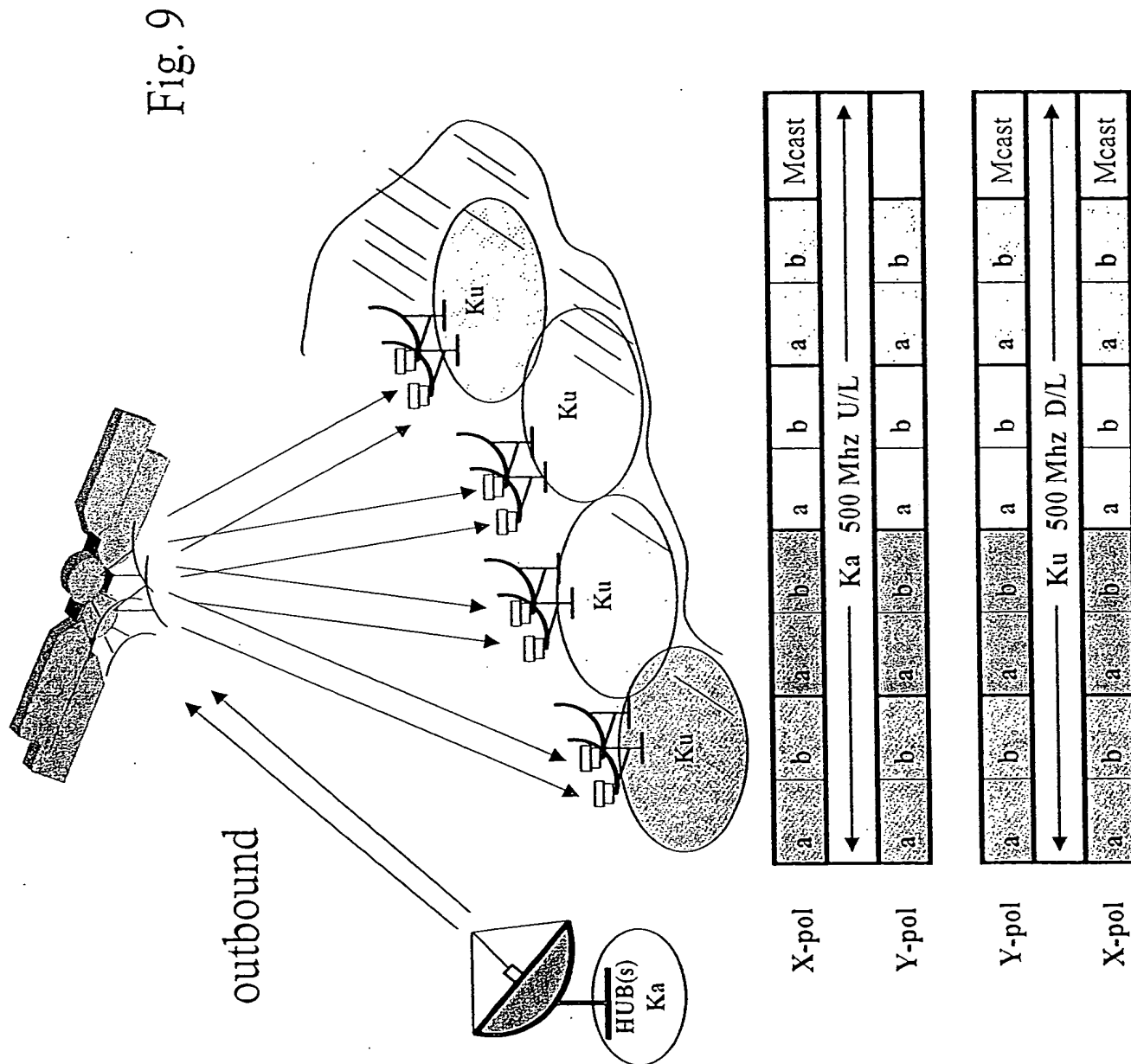
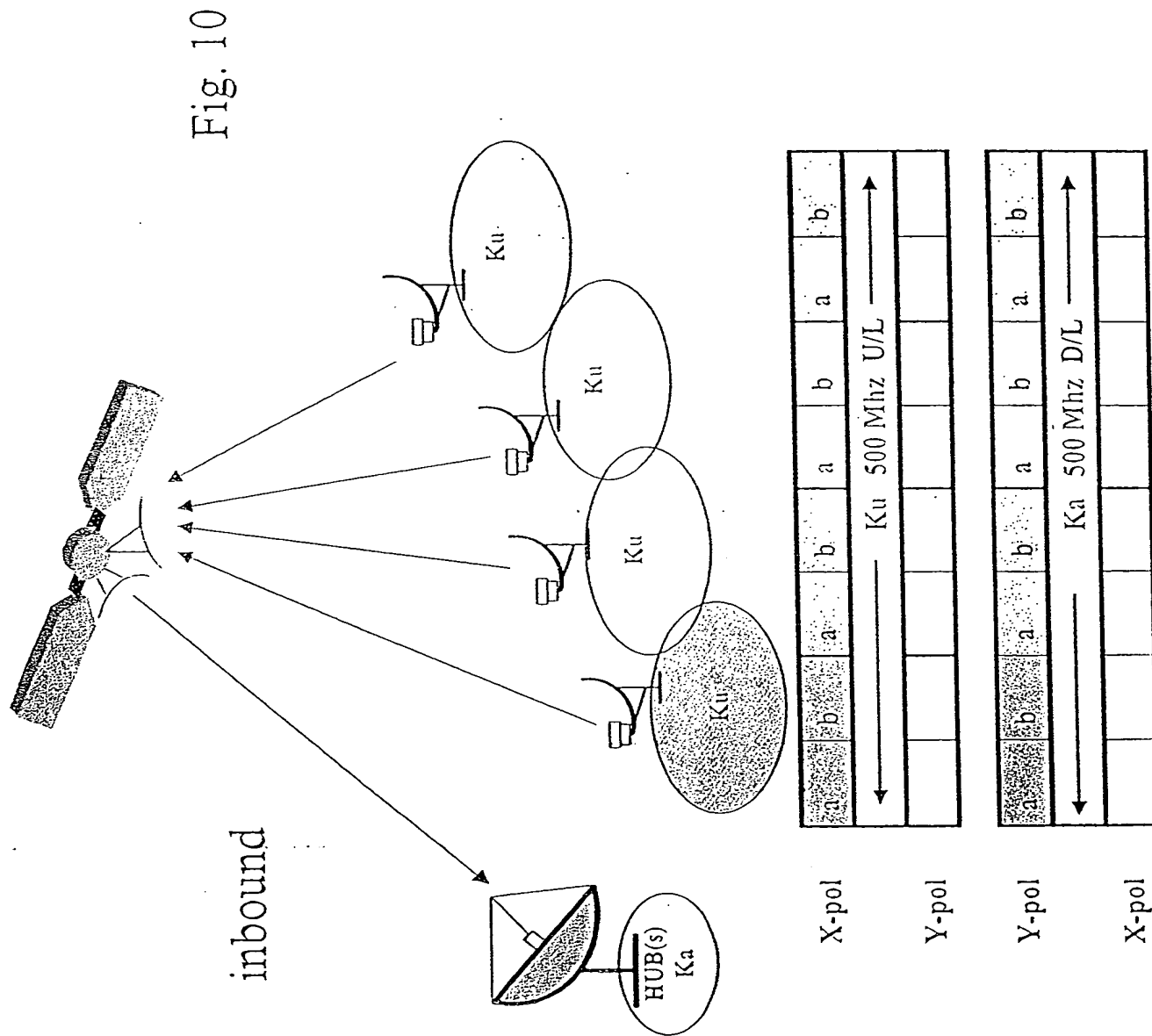


FIG. 10



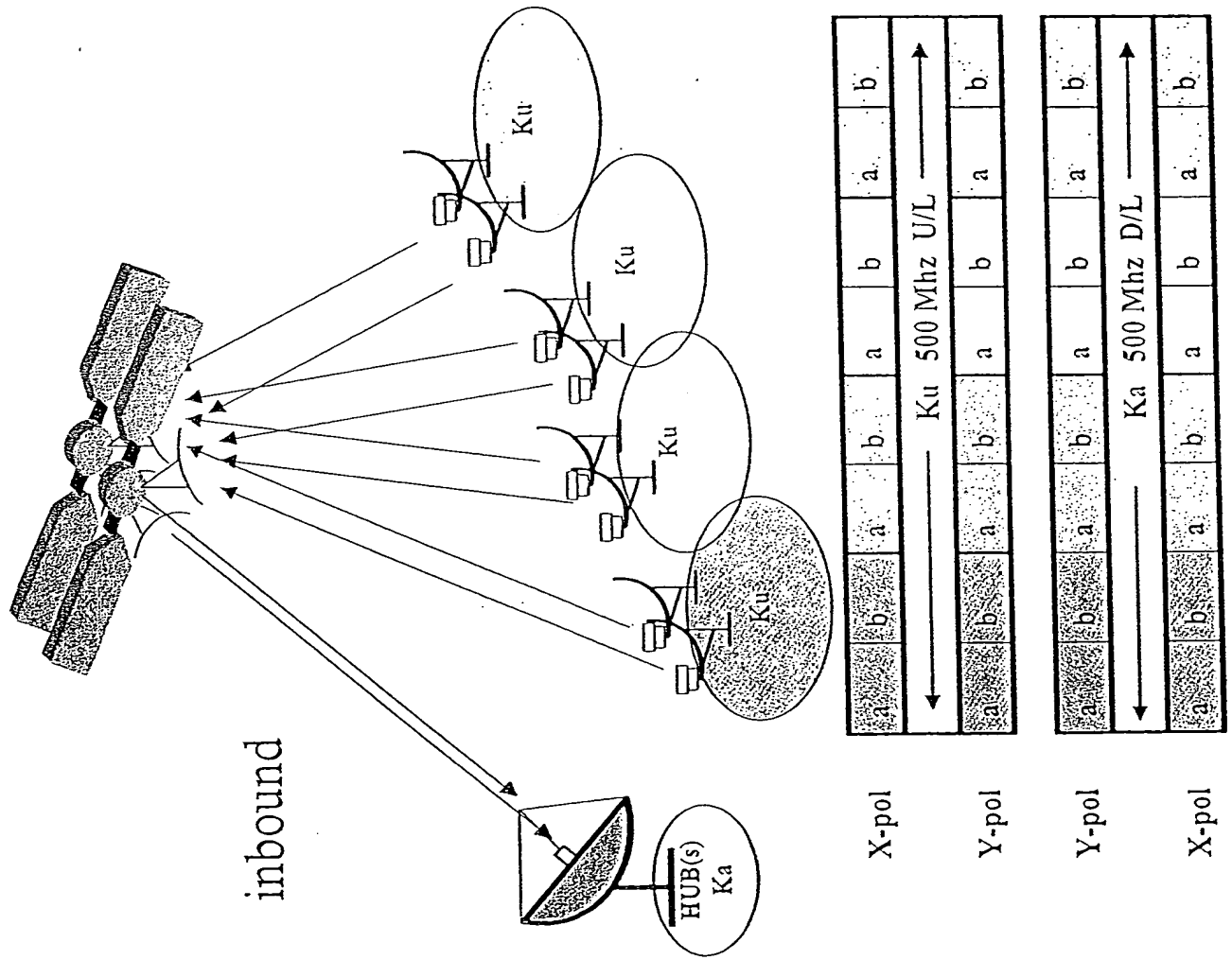
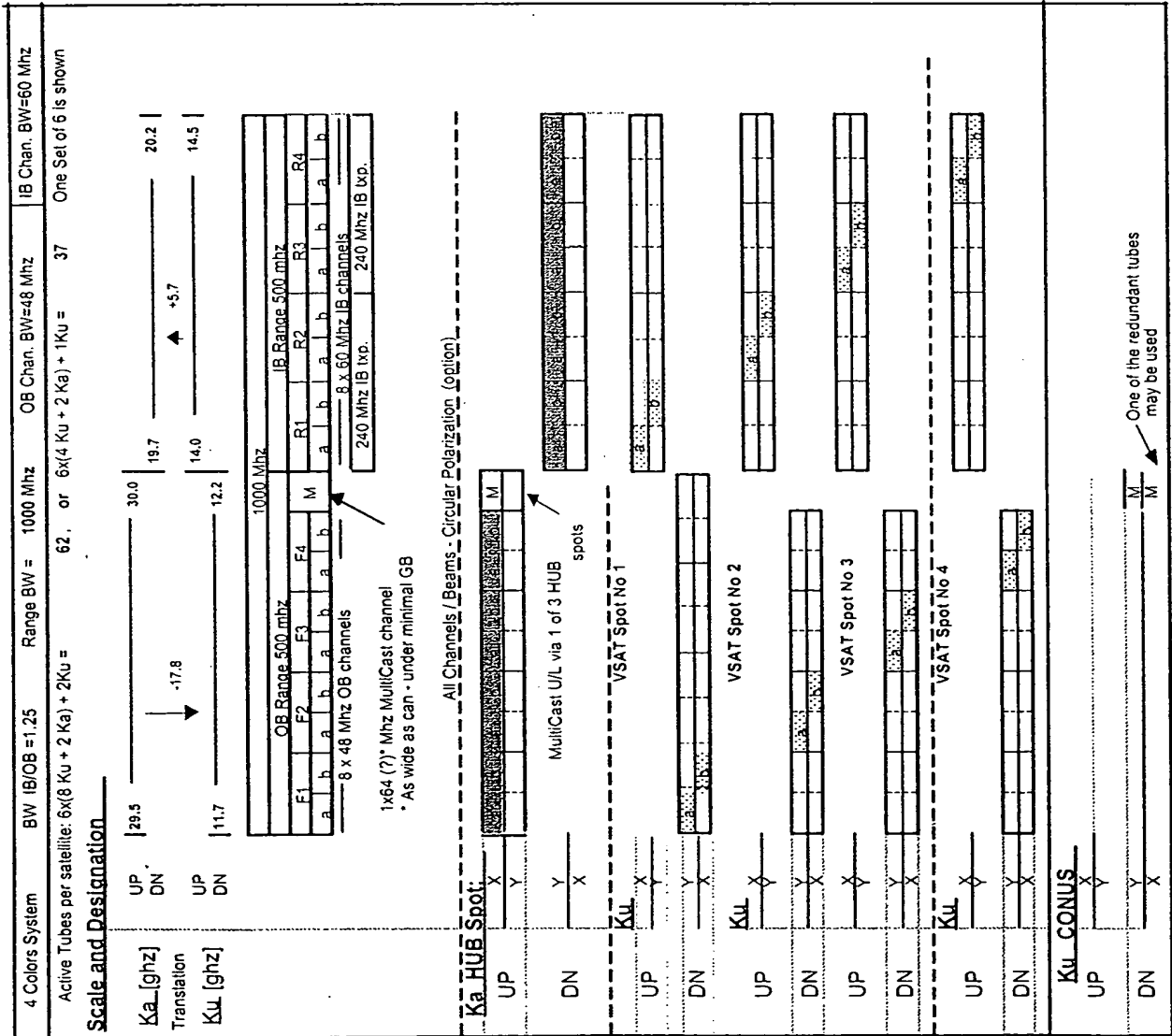


Fig. 11



F1 to F4 are Outbound channel pairs connected generally to Spot 1 - 4 respectively

R1 to R4 are Inbound channel pairs connected generally to Spot 1 - 4

M is a Multicast channel on both polarizations Connected (D/L) to Ku

Restoration Mode

Fig. 12

Unequal allocation of capacity

Transponder is the specific combination of TWTA, Filter and connectivity

Channel is a frequency range segment • handled as one unit

Connectivity along vertical lines only

Restoration switch along vertical lines only

Resources transfer along vertical lines only

F1 to F4 are Outbound channel pairs connected generally to Spot 1 - 4 respectively

R1 to R4 are Inbound channel pairs connected generally to Spot 1 - 4 respectively

**M is a Multicast channel on both polarizations
Connected (D/L) to Ku CONUS beam**

Alternate Unequal allocation of
cap.

Fig. 13

GE-15G/16G for Alternate, Frequency channels Concept

IB Chan. BW=60 Mhz

4 Colors System

BW /BOB =1.25

Range BW = 1000 Mhz

OB Chan. BW=48 Mhz

IB Chan. BW=60 Mhz

Active Tubes per satellite: 6x(8 Ku + 2 Ka) + 2Ku =

62, or 6x(4 Ku + 2 Ka) + 1Ku =

37

One Set of 6 is shown

Scale and Designation

UP

DN

29.5

30.0

20.2

↓ -17.8

↑ +5.7

UP

DN

11.7

12.2

14.5

1000 Mhz

OB Range 500 mhz

F1

F2

F3

F4

M

a

b

a

b

a

b

a

b

a

b

8 x 48 Mhz OB channels

IB Range 500 mhz

R1

R2

R3

R4

a

b

a

b

a

b

a

b

a

b

8 x 60 Mhz IB channels

240 Mhz IB t.p.

240 Mhz IB t.p.

1x64 (?) Mhz MultiCast channel

* As wide as can - under minimal GB

All Channels / Beams - Circular Polarization (option)

Ka HUB Spot:

UP

DN

Y

X

VSAT Spot No 1

UP

DN

X

X

Ku HUB Spot:

UP

DN

Y

X

VSAT Spot No 2

UP

DN

X

X

Ku HUB Spot:

UP

DN

Y

X

VSAT Spot No 3

UP

DN

X

X

Ku HUB Spot:

UP

DN

Y

X

VSAT Spot No 4

UP

DN

X

X

Ku CONUS

UP

DN

Y

X

VSAT Spot No 5

UP

DN

X

X

FIG. 14

Channel Donation Example

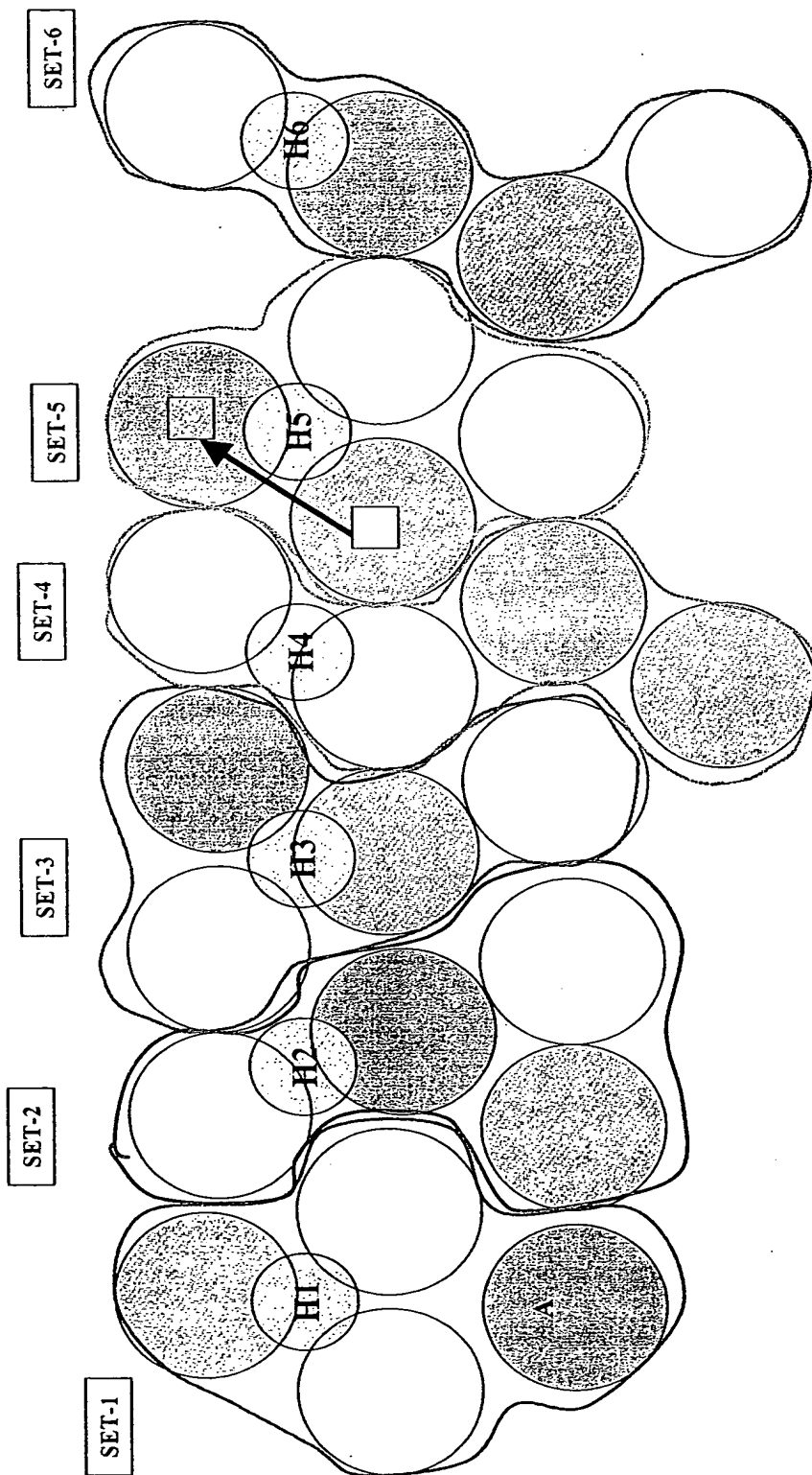


Fig. 14

Improper Channel Donation Example

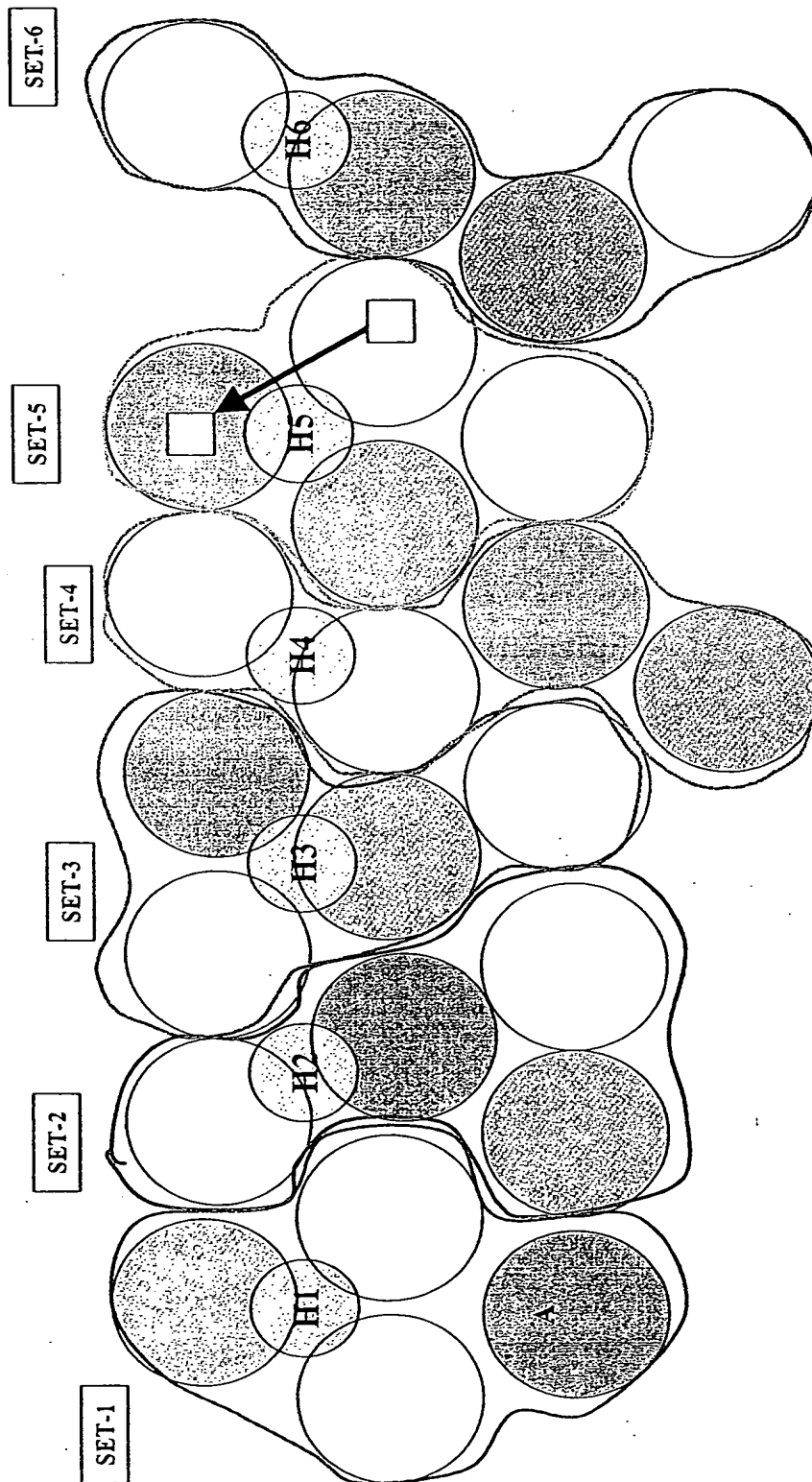


Fig. 15

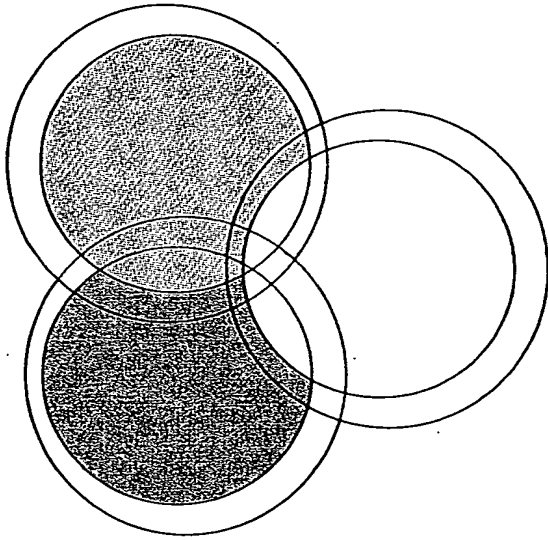


Fig. 16

Factor	Satellite	Generic (Ku)	MultiBeam (Ku + Ka)
Raw Freq. Range BW		500 Mhz	500 + 500 Mhz
Polarization. Freq. Reuse		X 2	X 2
Geographical Freq. Reuse		X 1	X 6
Useable Range BW		1,000 Mhz	12,000 Mhz

Fig. 17